

CLAIMS:

1. A closure for use with a container neck, the closure comprising a cap and an insert, the insert being adapted to be permanently adhered to the container neck and having a sealing surface and the cap comprising a complimentary sealing surface for sealable engagement with the sealing surface provided on the insert and engagement means for releasable engagement with complimentary engagement means provided on the container neck.
2. A closure in accordance with claim 1 wherein the container neck has a rim surrounding an axial bore and the insert is adapted to be received within the bore, the insert having a flange adapted to project outwardly from the bore to overlies the surrounding rim such that the insert protrudes axially from the bore no more than the thickness of the flange.
3. A closure in accordance with claim 1 wherein the container neck has an external neck surface and the insert is shaped such that no part of the insert overlies the external neck surface.
4. A closure in accordance with claim 1 wherein the cap comprises a top and a depending side wall, the engagement means being provided on an interior surface of the depending side wall.
5. A closure in accordance with claim 1 wherein the engagement means comprise a helical thread configuration.

6. A closure in accordance with claim 1 wherein the engagement means comprise a first formation adapted to be snapped over and held in position by a second retaining formation provided on the container neck.
- 5
7. A closure in accordance with claim 2 wherein the bore is cylindrical and the flange is adapted to project radially outwardly from the bore.
- 10
8. A closure in accordance with claim 2 wherein the external dimension of the flange is less than that of the rim it is adapted to overlie.
9. A closure in accordance with claim 2 wherein the flange
15 incorporates a pour lip.
10. A closure in accordance with claim 2 wherein the flange is adapted to be permanently adhered to the container neck.
- 20
11. A closure in accordance with claim 2 wherein an undersurface of the flange incorporates a recess for the receipt of a sealing medium with which to permanently adhere the insert to the container neck.
- 25
12. A closure in accordance with claim 1 wherein the insert is adapted to be wholly received within the external dimensions of the cap.
13. A closure in accordance with claim 1 wherein the cap
30 has the same silhouette as that of a conventional cap thereby enabling the closure to be applied using existing capping equipment.

14. A closure in accordance with claim 1 wherein the container neck defines a bore and the insert comprises a wall adapted to be received within the bore, an interior
5 surface of the wall defining the sealing surface provided on the insert and an exterior surface of a plug provided on the cap defining the complimentary sealing surface provided on the cap.

10 15. A closure in accordance with claim 14 wherein the bore and wall are cylindrical and the plug provided on the cap is annular.

16. A closure in accordance with claim 1 wherein the insert
15 is provided with a removable membrane with which to close off the container neck.

17. A closure in accordance with claim 16 wherein the removable membrane is at least in part defined by a
20 frangible line of weakness and is provided with a pull-ring with which to separate the membrane from the remainder of the insert.

18. A closure in accordance with claim 16 wherein at least
25 a portion of the removable membrane is concave.

19. A closure in accordance with claim 1 wherein both the cap and the insert comprise injection moulded plastics components.

20. A closure in combination with a container having a container neck, the closure being in accordance with claim 1.

5 21. The combination of claim 20 wherein the container and container neck are of a conventional design thereby enabling the container to be manipulated on a production line using existing equipment.

10 22. A closure for use with a container neck, the container neck having a rim surrounding an axial bore and the closure comprising a cap and an insert, the cap having a sealing surface and the insert being adapted to be received within the bore and permanently adhered to the container neck and
15 having a complimentary sealing surface for sealable engagement with the sealing surface provided on the cap and a flange, the flange being adapted to project outwardly from the bore to overlies the surrounding rim such that the insert protrudes axially from the bore no more than the thickness
20 of the flange.

23. A closure in accordance with claim 22 wherein the cap is provided with engagement means for releasable engagement with complimentary engagement means provided on the
25 container neck.

24. A closure in accordance with claim 22 wherein the container neck has an external neck surface and the insert is shaped such that no part of the insert overlies the
30 external neck surface.

25. A closure in accordance with claim 23 wherein the cap comprises a top and a depending side wall, the engagement means being provided on an interior surface of the depending side wall.

5

26. A closure in accordance with claim 23 wherein the engagement means comprise a helical thread configuration.

27. A closure in accordance with claim 23 wherein the engagement means comprise a first formation adapted to be snapped over and held in position by a second retaining formation provided on the container neck.

28. A closure in accordance with claim 22 wherein the bore is cylindrical and the flange is adapted to project radially outwardly from the bore.

29. A closure in accordance with claim 22 wherein the external dimension of the flange is less than that of the rim it is adapted to overlies.

30. A closure in accordance with claim 22 wherein the flange incorporates a pour lip.

31. A closure in accordance with claim 22 wherein the flange is adapted to be permanently adhered to the container neck.

32. A closure in accordance with claim 22 wherein an undersurface of the flange incorporates a recess for the receipt of a sealing medium with which to permanently adhere the insert to the container neck.

33. A closure in accordance with claim 22 wherein the insert is adapted to be wholly received within the external dimensions of the cap.

5

34. A closure in accordance with claim 22 wherein the cap has the same silhouette as that of a conventional cap thereby enabling the closure to be applied using existing capping equipment.

10

35. A closure in accordance with claim 22 wherein the container neck defines a bore and the insert comprises a wall adapted to be received within the bore, an interior surface of the wall defining the sealing surface provided on the insert and an exterior surface of a plug provided on the cap defining the complimentary sealing surface provided on the cap.

36. A closure in accordance with claim 35 wherein the bore and wall are cylindrical and the plug provided on the cap is annular.

37. A closure in accordance with claim 22 wherein the insert is provided with a removable membrane with which to close off the container neck.

38. A closure in accordance with claim 37 wherein the removable membrane is at least in part defined by a frangible line of weakness and is provided with a pull-ring with which to separate the membrane from the remainder of the insert.

30

39. A closure in accordance with claim 37 wherein at least a portion of the removable membrane is concave.

40. A closure in accordance with claim 22 wherein both the
5 cap and the insert comprise injection moulded plastics components.

41. A closure in combination with a container having a container neck, the closure being in accordance with claim
10 22.

42. The combination of claim 41 wherein the container and container neck are of a conventional design thereby enabling the container to be manipulated on a production line using
15 existing equipment.

43. A closure for use with a container neck having an external neck surface, the closure comprising a cap and an insert, the cap having a sealing surface and the insert
20 having a complimentary sealing surface for sealable engagement with the sealing surface provided on the cap, the insert being adapted to be permanently adhered to the container neck and shaped such that no part of the insert overlies the external neck surface.

25 44. A closure in accordance with claim 43 wherein the cap is provided with engagement means for releasable engagement with complimentary engagement means provided on the container neck.

30 45. A closure in accordance with claim 43 wherein the container neck has a rim surrounding an axial bore and the

insert is adapted to be received within the bore, the insert having a flange adapted to project outwardly from the bore to overlie the surrounding rim such that the insert protrudes axially from the bore no more than the thickness
5 of the flange.

46. A closure in accordance with claim 44 wherein the cap comprises a top and a depending side wall, the engagement means being provided on an interior surface of the depending
10 side wall.

47. A closure in accordance with claim 44 wherein the engagement means comprise a helical thread configuration.

15 48. A closure in accordance with claim 44 wherein the engagement means comprise a first formation adapted to be snapped over and held in position by a second retaining formation provided on the container neck.

20 49. A closure in accordance with claim 45 wherein the bore is cylindrical and the flange is adapted to project radially outwardly from the bore.

50. A closure in accordance with claim 45 wherein the
25 external dimension of the flange is less than that of the rim it is adapted to overlie.

51. A closure in accordance with claim 45 wherein the flange incorporates a pour lip.

52. A closure in accordance with claim 45 wherein the flange is adapted to be permanently adhered to the container neck.

5 53. A closure in accordance with claim 45 wherein an undersurface of the flange incorporates a recess for the receipt of a sealing medium with which to permanently adhere the insert to the container neck.

10 54. A closure in accordance with claim 43 wherein the insert is adapted to be wholly received within the external dimensions of the cap.

55. A closure in accordance with claim 43 wherein the cap
15 has the same silhouette as that of a conventional cap thereby enabling the closure to be applied using existing capping equipment.

56. A closure in accordance with claim 43 wherein the
20 container neck defines a bore and the insert comprises a wall adapted to be received within the bore, an interior surface of the wall defining the sealing surface provided on the insert and an exterior surface of a plug provided on the cap defining the complimentary sealing surface provided on
25 the cap.

57. A closure in accordance with claim 56 wherein the bore and wall are cylindrical and the plug provided on the cap is annular.

58. A closure in accordance with claim 43 wherein the insert is provided with a removable membrane with which to close off the container neck.

5 59. A closure in accordance with claim 58 wherein the removable membrane is at least in part defined by a frangible line of weakness and is provided with a pull-ring with which to separate the membrane from the remainder of the insert.

10 60. A closure in accordance with claim 58 wherein at least a portion of the removable membrane is concave.

61. A closure in accordance with claim 43 wherein both the
15 cap and the insert comprise injection moulded plastics components.

62. A closure in combination with a container having a container neck, the closure being in accordance with claim
20 43.

63. The combination of claim 62 wherein the container and container neck are of a conventional design thereby enabling the container to be manipulated on a production line using
25 existing equipment.

64. A closure in combination with a container having a container neck defining a bore, the closure comprising a cap and an insert, the insert being permanently adhered
30 container neck and comprising a wall received within the bore and the cap comprising a plug which sealingly engages

with an interior surface of said wall at a location within the container neck.

65. The combination of claim 64 wherein, at the location of
5 sealing engagement, the wall of the insert is interposed between the plug and a surface of the container neck defining the bore.

66. The combination of claim 64 wherein the plug is formed
10 so as to not only sealingly engage with an interior surface of the wall but also to urge an external surface of the wall into sealing engagement with a surface of the container neck defining the bore.

67. The combination of claim 64 wherein the insert is
15 formed of low density polyethylene (LDPE) and the cap is formed of high density polyethylene (HDPE).

68. The combination of claim 64 wherein the closure
20 comprises a cap and an insert, the insert being adapted to be permanently adhered to the container neck and having a sealing surface and the cap comprising a complimentary sealing surface for sealable engagement with the sealing surface provided on the insert and engagement means for
25 releasable engagement with complimentary engagement means provided on the container neck.

69. The combination of claim 64 wherein the closure
comprises a cap and an insert, the cap having a sealing
30 surface and the insert being adapted to be received within the bore and permanently adhered to the container neck and having a complimentary sealing surface for sealable

engagement with the sealing surface provided on the cap and a flange, the flange being adapted to project outwardly from the bore to overlie a rim surrounding the bore such that the insert protrudes axially from the bore no more than the
5 thickness of the flange.

70. The combination of claim 64 wherein the closure comprises a cap and an insert, the cap having a sealing surface and the insert having a complimentary sealing
10 surface for sealable engagement with the sealing surface provided on the cap, the insert being adapted to be permanently adhered to the container neck and shaped such that no part of the insert overlies an external surface of the neck.

15